

AMENDMENTS TO THE CLAIMS

Please cancel claims 1-21 and enter new claims 22-41.

1-21 (Canceled)

22. (New) An isolated nucleic acid molecule selected from the group consisting of:

- (a) an isolated nucleic acid molecule comprising:
 - (i) a nucleic acid sequence encoding a feline p35 subunit protein;
 - (ii) a nucleic acid linker of (XXX)_n wherein n=0 to 60; and
 - (iii) a nucleic acid sequence encoding a feline p40 subunit protein; and
- (b) an isolated nucleic acid molecule comprising a nucleic acid sequence fully

complementary to the nucleic acid molecule set forth in (a).

23. (New) The isolated nucleic acid molecule of Claim 22, wherein said isolated nucleic acid molecule is selected from the group consisting of:

- (a) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said p35 subunit encoding nucleic acid sequence comprises at least 44 contiguous nucleotides identical in sequence to at least 44 contiguous nucleotides of a nucleic acid sequence selected from the group consisting of SEQ ID NO:32, SEQ ID NO:35 and SEQ ID NO:101; and
- (b) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said p40 subunit encoding nucleic acid sequence comprises at least 44 contiguous nucleotides identical in sequence to at least 44 contiguous nucleotides of a nucleic acid sequence selected from the group consisting of SEQ ID NO:26, SEQ ID NO:29 and SEQ ID NO:55.

24. (New) The isolated nucleic acid molecule of Claim 22, wherein said isolated nucleic acid molecule is selected from the group consisting of:

(a) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said p35 subunit encoding nucleic acid sequence comprises a nucleotide sequence at least 90% identical to SEQ ID NO:32, SEQ ID NO:35 and SEQ ID NO:101;

(b) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said p40 subunit encoding nucleic acid sequence comprises a nucleotide sequence at least 90% identical to SEQ ID NO:26, SEQ ID NO:29 and SEQ ID NO:55; and

(c) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said nucleic acid molecule comprises a nucleic acid sequence at least about 90% identical to SEQ ID NO:38 or SEQ ID NO:43.

25. (New) The isolated nucleic acid of Claim 24, wherein said nucleic acid molecule encodes a protein having a function selected from the group consisting of:

(a) eliciting an immune response against an IL-12 protein having the amino acid sequence of SEQ ID NO:38 or SEQ ID NO:43;

(b) selectively binding to an antibody raised against an IL-12 protein having the amino acid sequence of SEQ ID NO:38 or SEQ ID NO:43; and

(c) exhibiting IL-12 activity.

26. (New) The isolated nucleic acid molecule of Claim 22, wherein said nucleic acid linker comprises SEQ ID NO:83.

27. (New) The isolated nucleic acid molecule of Claim 22, wherein said isolated nucleic acid molecule is selected from the group consisting of:

(a) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said p35 subunit encoding nucleic acid sequence comprises SEQ ID NO:32, SEQ ID NO:35 or SEQ ID NO:101;

(b) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said p40 subunit encoding nucleic acid sequence comprises SEQ ID NO:26, SEQ ID NO:29 or SEQ ID NO:55;
and

(c) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said isolated nucleic acid sequence molecule comprises SEQ ID NO:38 or SEQ ID NO:43.

28. (New) The isolated nucleic acid molecule of Claim 22, wherein said isolated nucleic acid molecule is selected from the group consisting of:

(a) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said p35 subunit encoding nucleic acid sequence consists of SEQ ID NO:32, SEQ ID NO:35 or SEQ ID NO:101;

(b) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said p40 subunit encoding nucleic acid sequence consists of SEQ ID NO:26, SEQ ID NO:29 or SEQ ID NO:55;
and

(c) an isolated nucleic acid molecule comprising a feline p35 subunit encoding sequence and a feline p40 subunit encoding sequence, wherein said isolated nucleic

acid sequence molecule has a nucleic acid sequences consisting of SEQ ID NO:38 or SEQ ID NO:43.

29. (New) An isolated nucleic acid molecule selected from the group consisting of:

(a) an isolated nucleic acid molecule comprising:

(i) a first nucleic acid sequence encoding a protein comprising an at least 23 contiguous amino acid region identical in sequence to an at least 23 contiguous amino acid region from SEQ ID NO:33, SEQ ID NO:36 or SEQ ID NO:102;

(ii) a nucleic acid linker of (XXX)_n wherein n=0 to 60; and

(iii) a second nucleic acid sequence encoding a protein comprising an at least 23 contiguous amino acid region identical in sequence to an at least 23 contiguous amino acid region from SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO:56; and

(b) an isolated nucleic acid molecule comprising a nucleic acid sequence fully complementary to the nucleic acid molecule set forth in (a).

30. (New) The isolated nucleic acid molecule of Claim 29, wherein said isolated nucleic acid molecule is selected from the group consisting of:

(a) an isolated nucleic acid molecule comprising a first and second nucleic acid sequence, wherein said first nucleic acid sequence encodes a protein comprising an amino acid sequence at least 90% identical to SEQ ID NO:33, SEQ ID NO:36 or SEQ ID NO:102;

(b) an isolated nucleic acid molecule comprising a first and second nucleic acid sequence, wherein said second nucleic acid sequence encodes a protein comprising an amino acid sequence at least 90% identical to SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO:56; and

(c) an isolated nucleic acid molecule encoding a protein comprising an amino acid sequence at least 90% identical to SEQ ID NO:39 or SEQ ID NO:44.

31. (New) The isolated nucleic acid of Claim 30, wherein said nucleic acid molecule encodes a protein having a function selected from the group consisting of:

(a) eliciting an immune response against an IL-12 protein having the amino acid sequence of SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO:56;

(b) selectively binding to an antibody raised against an IL-12 protein having the amino acid sequence of SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO:56; and

(c) exhibiting IL-12 activity.

32. (New) The isolated nucleic acid molecule of Claim 29, wherein said isolated nucleic acid molecule is selected from the group consisting of:

(a) an isolated nucleic acid molecule comprising a first and second nucleic acid sequence, wherein said first nucleic acid sequence encodes an amino acid sequence comprising SEQ ID NO:33, SEQ ID NO:36 or SEQ ID NO: 102;

(b) an isolated nucleic acid molecule comprising a first and second nucleic acid sequence, wherein said second nucleic acid sequence encodes an amino acid sequence comprising SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO: 56; and

(c) an isolated nucleic acid molecule comprising a first and second nucleic acid sequence, wherein said isolated nucleic acid sequence encodes a protein comprising SEQ ID NO:39 or SEQ ID NO:44.

33. (New) The isolated nucleic acid molecule of Claim 29, wherein said isolated nucleic acid molecule is selected from the group consisting of:

(a) an isolated nucleic acid molecule comprising a first and second nucleic acid sequence, wherein said first nucleic acid sequence encodes an amino acid sequence consisting of SEQ ID NO:33, SEQ ID NO:36 or SEQ ID NO: 102;

(b) an isolated nucleic acid molecule comprising a first and second nucleic acid sequence, wherein said second nucleic acid sequence encodes an amino acid sequence consisting of SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO: 56; and

(c) an isolated nucleic acid molecule comprising a first and second nucleic acid sequence, wherein said isolated nucleic acid sequence encodes a protein having the sequence of SEQ ID NO:39 or SEQ ID NO:44.

34. (New) The isolated nucleic acid molecule of Claim 29, wherein said nucleic acid linker comprises SEQ ID NO:83.

35. (New) An isolated protein comprising:

- (a) a feline p35 subunit amino acid sequence;
- (b) a linker amino acid sequence; and
- (c) a feline p40 subunit amino acid sequence

wherein said linker amino acid sequence links the p35 and p40 subunits.

36. (New) The isolated protein of Claim 35, wherein said protein is selected from the group consisting of:

(a) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said p35 subunit amino acid sequence comprises an at least 23 contiguous amino acid region identical in sequence to an at least 23 contiguous amino acid region from SEQ ID NO:33, SEQ ID NO:36 or SEQ ID NO: 102; and

(b) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said p40 subunit amino acid sequence comprises an at least 23 contiguous amino acid region identical in sequence to an at least 23 contiguous amino acid region from SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO:56.

37. (New) The isolated protein of Claim 35, wherein said protein is selected from the group consisting of:

(a) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said p35 subunit amino acid sequence comprises an amino acid sequence at least 90% identical to SEQ ID NO:33, SEQ ID NO:36 or SEQ ID NO: 102;

(b) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said p40 subunit amino acid sequence comprises an amino acid region at least 90% identical to SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO:56; and

(c) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said protein comprises an amino acid region at least 90% identical to SEQ ID NO:38 or SEQ ID NO:43.

38. (New) The isolated protein of Claim 37, wherein said protein has a function selected from the group consisting of:

(a) eliciting an immune response against an IL-12 protein having the amino acid sequence of SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO:56;

(b) selectively binding to an antibody raised against an IL-12 protein having the amino acid sequence of SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO:56; and

(c) exhibiting IL-12 activity.

39. (New) The isolated protein of Claim 35, wherein said protein is selected from the group consisting of:

(a) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said p35 subunit amino acid sequence comprises SEQ ID NO:33, SEQ ID NO:36 or SEQ ID NO: 102;

(b) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said p40 subunit amino acid sequence comprises SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO:56; and

(c) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said protein comprises the sequence of SEQ ID NO:38 or SEQ ID NO:43.

40. (New) The isolated protein of Claim 35, wherein said protein is selected from the group consisting of:

(a) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said p35 subunit amino acid sequence consists of SEQ ID NO:33, SEQ ID NO:36 or SEQ ID NO: 102;

(b) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said p40 subunit amino acid sequence consists of SEQ ID NO:27, SEQ ID NO:30 or SEQ ID NO:56; and

(c) an isolated protein comprising a feline p35 subunit amino acid sequence and a feline p40 subunit amino acid sequence, wherein said protein has a sequence consisting of SEQ ID NO:38 or SEQ ID NO:43.

41. (New) The isolated protein of Claim 35, wherein said protein is encoded by a nucleic acid molecule comprising a nucleic acid linker sequence, wherein said nucleic acid linker sequence comprises SEQ ID NO:83.